

Drought Mitigation and Response Advisory Council

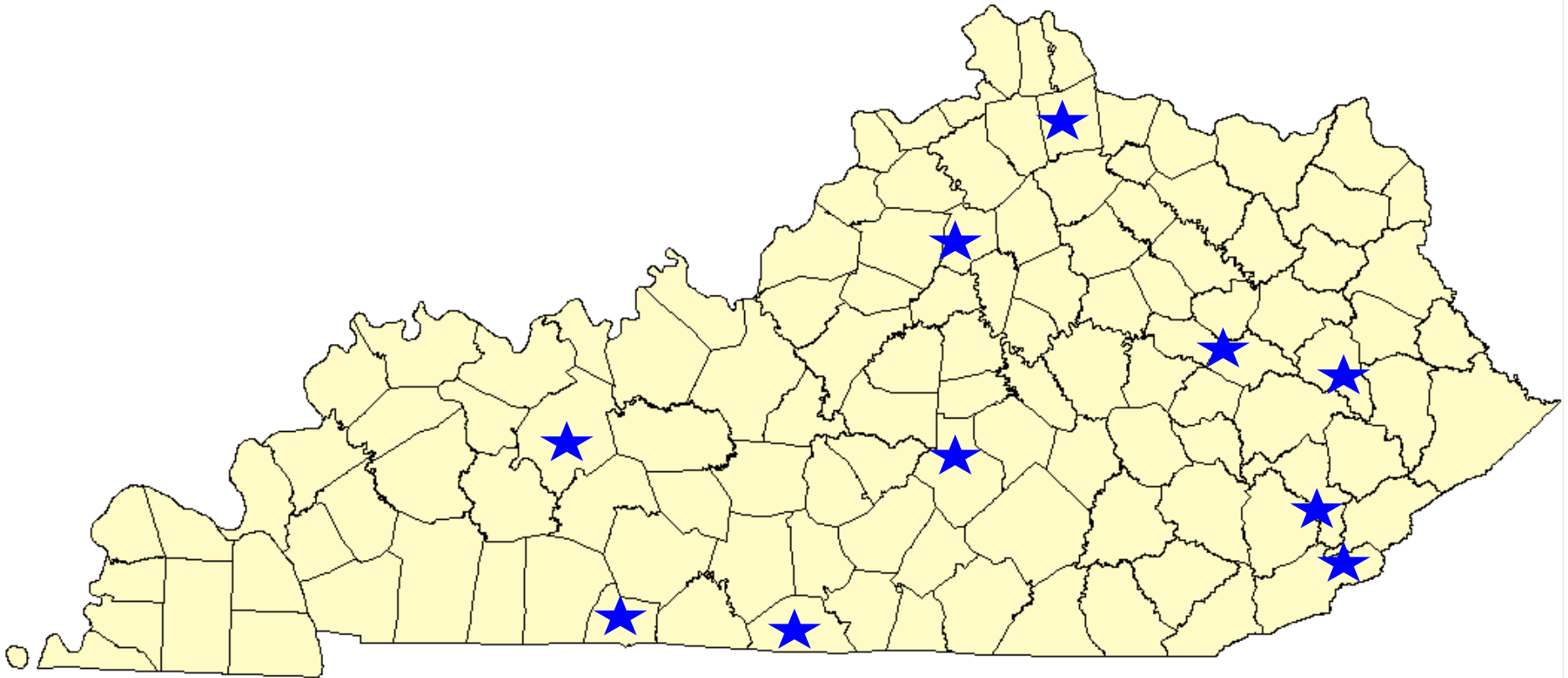
Drought Planning and Response in Kentucky

May 29, 2008



Basis for Plan Development

I. "Experience as a Teacher/Motivator"



Basis for Plan Development

II. “Follow through on Earlier Recommendations”

•Water Management Task Force (1982-1983)

Directed by the legislature to assist the cabinet to develop a plan for managing surface and ground water.

Recommendations:

- Inventory of the state's water resources including surface water availability and groundwater yields for instream and offstream uses, especially during drought
- Assessment and projections of withdrawal demands for all water uses



Basis for Plan Development

•Citizens Water Task Force (1985)

Self-created in 1985 to carry on for the discontinued Water Management Task Force.

Recommendations:

- Encouraged each water system to have an emergency plan for backup water supply
- Inventory the water resources of the state
- Identify instream and other water uses and develop demand projections for those uses



Basis for Plan Development

- **Water Management Task Force (1986-1987)**

Re-established by the legislature in 1986

Recommendations:

- Create a state revolving loan fund for financing water infrastructure projects
- Provide funding for use by counties to engage in long-range water supply planning



Basis for Plan Development

•Water Allocation Task Force (1987)

Created by the Division of Water

Recommendations:

- Numerous specific recommendations related to water withdrawal permitting, data collection and monitoring and supply development
- Increased support for local planning and coordination for augmenting water supply and distribution systems



Basis for Plan Development

•Water Supply Task Force (1989)

Created by Executive Order 88-865 by Gov. Wilkinson

- Require water supply planning at the local level
- Require water suppliers to have emergency plans for curtailing water usage and for accessing alternative supplies
- Maintain a statewide water supply inventory
- Provide more assistance for water shortage preparedness
- Conservation programs, leak detection and repair programs



Basis for Plan Development

•Water Supply Task Force (1989, cont.)

"The Governor should assign a workgroup to create a comprehensive, state-level water shortage response plan. The plan should include procedures for: evaluating and clarifying mechanisms for designation of water shortage emergencies; differentiating between a water emergency for water suppliers versus an agricultural emergency; clarifying to water managers the responsibilities of the Executive Branch, various agencies and private organizations; protecting the availability of water for producing power; and estimating the social, economic and environmental impacts of drought. This group should also promote water shortage response preparedness at all levels of government."



Basis for Plan Development

III. “Senate Joint Resolution 109”

A JOINT RESOLUTION directing the Environmental and Public Protection Cabinet to develop a drought mitigation and response plan for the Commonwealth, pursuant to KRS 151.

- protect the rights of all persons who are equitably and reasonably interested in the use and availability of water
- provide for adequate disposition of water among people of the Commonwealth entitled to its use during severe drought or times of emergency
- during times of shortage a limited quantity of water must be shared among potable, industrial, agricultural, commercial, environmental and recreational demands
- there exists no comprehensive drought mitigation and response strategy that coordinates the actions of the Commonwealth in preparing for and responding to drought
- the EPPC is granted the authority pursuant to KRS 151.200 in times of drought emergency.....to balance the rights and availability of water among users



Basis for Plan Development

Be it resolved by the General Assembly of the Commonwealth of Kentucky:

- The EPPC shall develop, in consultation with a Drought Mitigation and Response Advisory Council, aplan to provide for drought mitigation and emergency planning
- The secretary of EPPC shall appoint members to theCouncil
- The EPPC shall schedule regular meetings with theCouncil.....in developing a statewide drought mitigation and response plan
- The EPPC shall submit the statewide.....plan to the Legislative Research Commission and to the Interim Joint Committee on Agriculture and Natural Resources by December 31, 2008



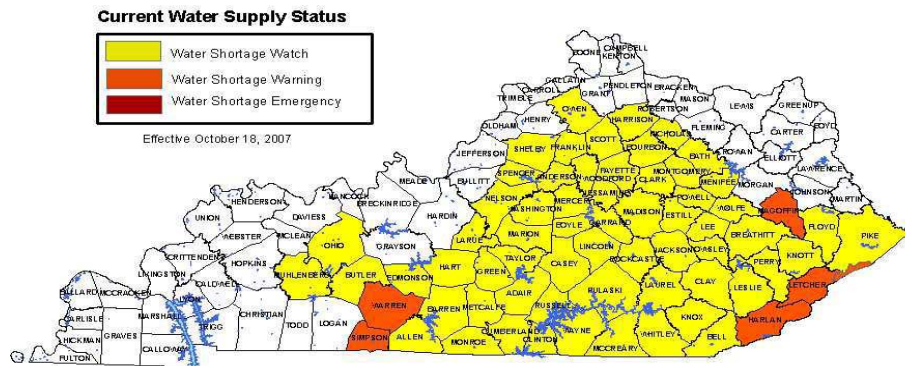
Kentucky Drought Response

- ❑ Emphasis on Local Water Shortage Response
 - All drought-vulnerable water systems have WSRP
 - State provides technical assistance, permitting, etc.
 - Local response aligned with state response
- ❑ Interagency Coordination
 - Water Availability Advisory Group - state and federal
 - Primarily drought/climate monitoring and *impact assessment*
 - Other agency task forces - Emergency Mgmt, Agriculture
- ❑ Drought Monitoring and Notification
 - Two stage notification - Water Shortage Watch and Warning
 - Act as “triggers” for local drought response phases
 - Water shortage advisory, alert, emergency, rationing
 - Tracking of drought impacts to various sectors where information is available



Responding to Drought

Past: "Crisis Management"



Present: "Response as Primary Mitigation"

Local and institutional memory? Initiation of response timely?
Refinement of plans and tactics? Appropriate levels of response?
Cooperation from all stakeholders? Knee-jerk reactions?

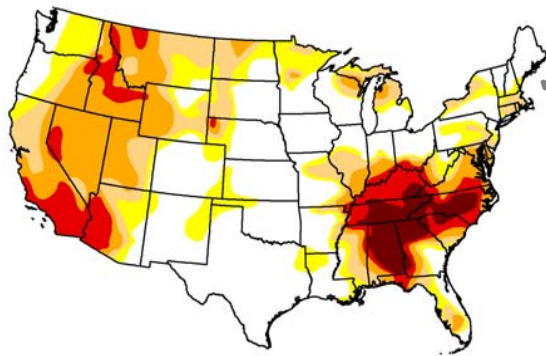
Future: "A Comprehensive Drought Plan designed to reduce Drought Risk"



Drought Risk: Exposure x Vulnerability

Exposure

- Regional Variation

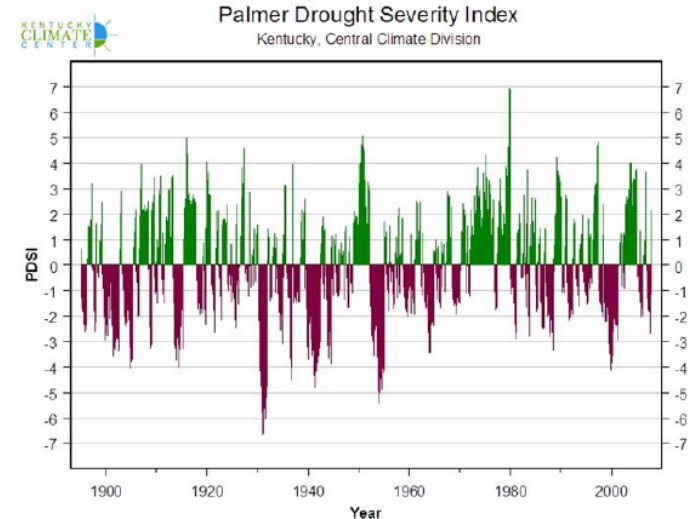


"rarely does drought intensity or duration affect all areas of the state equally"

- Frequency of Occurrence

"Exceptional drought recurs ~ 3-4 times each century"

"Severe drought recurs ~ once each decade"



Drought Risk

The risk of exposure to drought must be assessed by recognizing that:

- Each drought is a unique experience
- Extreme drought will most certainly recur, at levels of severity that will cause great economic and social hardship
- Current perceptions of the hazards presented by drought are shaped by the droughts that we have experienced
- Drought severity and impact is generally not uniform to all areas of the state
- Drought response must include the ability to monitor regional variations in severity in order to initiate an appropriate level of response

Drought Risk

Vulnerability



Drinking Water Supplies - self supplied, public
Cooling Water for Energy - Production
Agriculture and other water-dependent business
Recreation
Water Quality and Aquatic Habitat



"High Vulnerability"
Agriculture, Irrigation
Some Public Water Systems
Many water-dependent businesses
Instream Flows

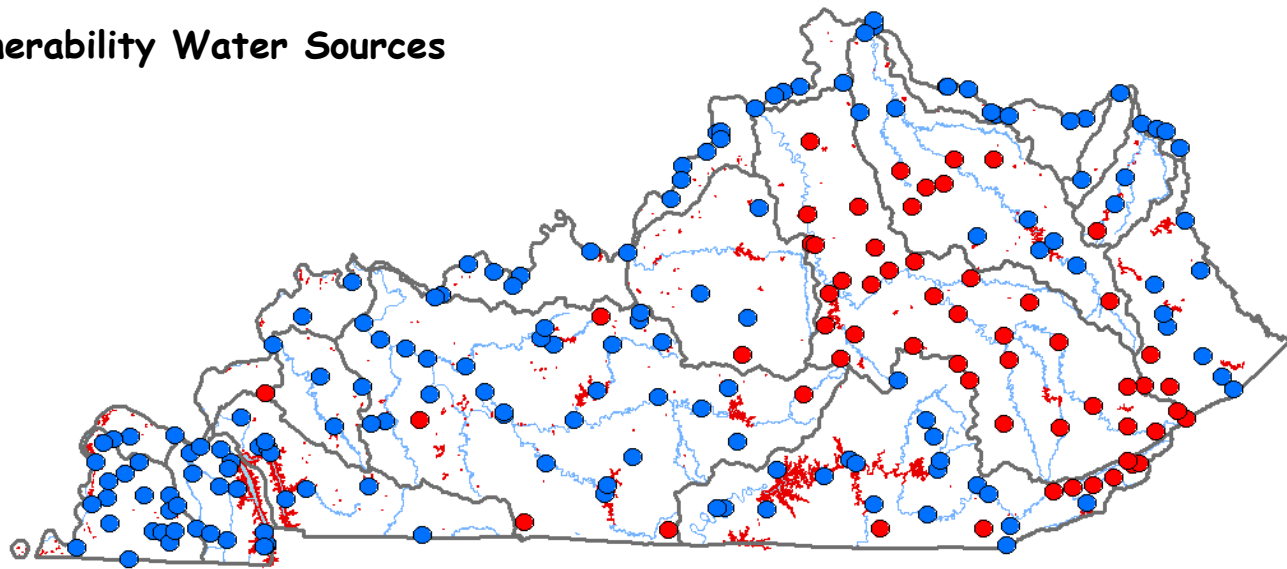


Drought Risk

Basis for Determination of Vulnerability to Water Supplies

- Historical impacts of drought on water suppliers
- Reliability of raw water sources during severe drought
- Proximity of potential competing regulated or unregulated use
- Ability to adequately quantify limits to a source of water supply
- **Population growth and future societal demand**

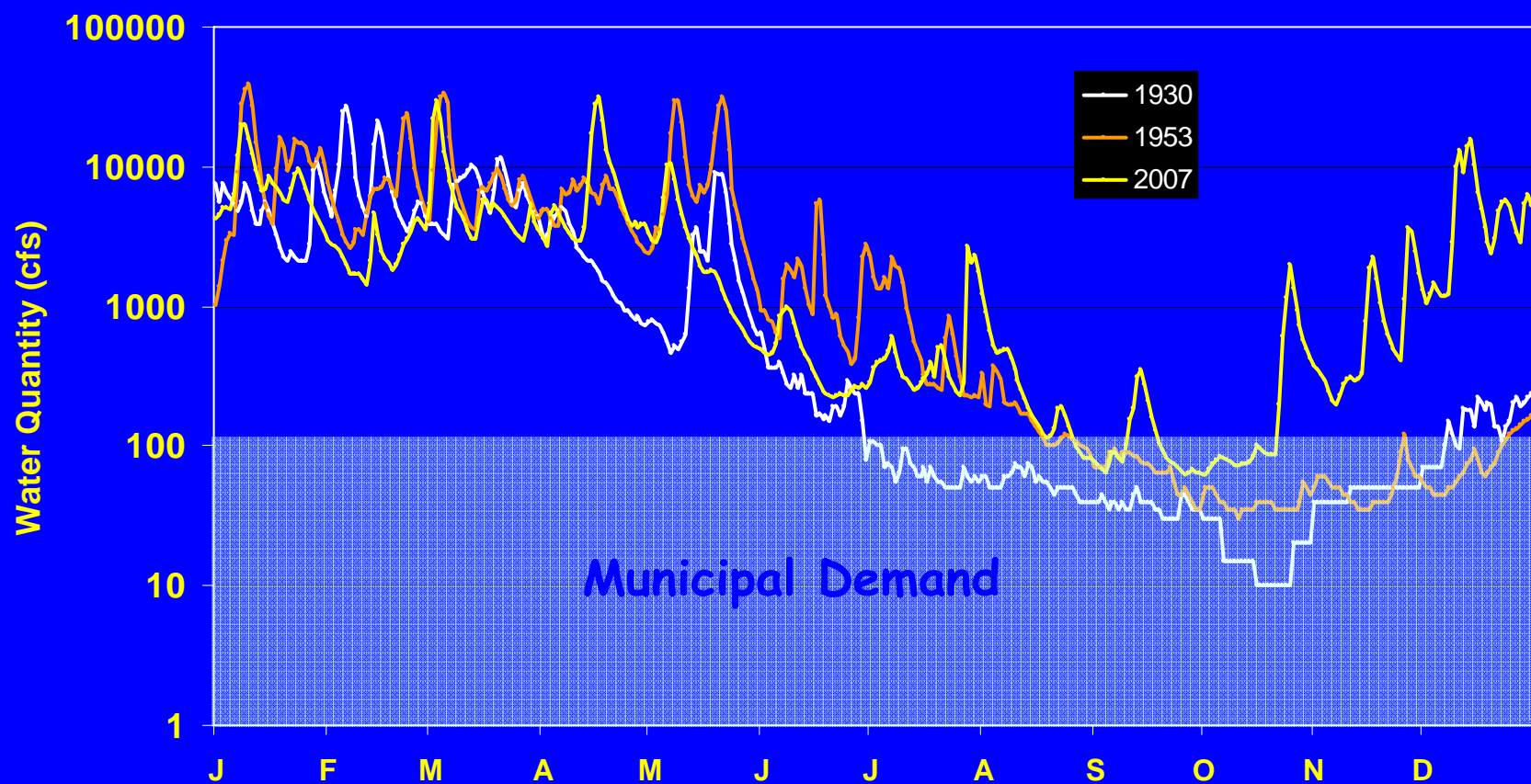
- Low Vulnerability Water Sources
- High Vulnerability Water Sources



Drought Risk

Water Supply Hazard to Central Kentucky

Assumed recurrence of record droughts
Kentucky River at Lock 10, Boonesboro



Challenges & Opportunities

- ☐ Drought Data Development
- ☐ Drought Planning
- ☐ Drought Policy

Drought Planning

☐ Drought Planning

☐ Emphasize preparedness

- ☐ Support data networks and tools development
- ☐ Refine interagency communication and coordination
- ☐ Develop specific emergency actions strategies
- ☐ Create a single state drought notification system
- ☐ Improve local drought response
- ☐ Adopt long-term vision and develop the framework

What to Expect as a Member

EPPC has the responsibility to develop a drought plan with advice and consultation of the *Drought Advisory Council (DAC)*

The DAC will be periodically convened to assist in reviewing and guiding the development and writing of the plan

EPPC anticipates soliciting individual or small group input to help develop certain elements of the plan

The DAC will be asked to review, comment, and make changes as the plan is developed

Members of the DAC will approve a final plan and present it to the LRC and Interim Joint Committee on Ag and natural Resources by December 31, 2008.



Schedule for Completion

May 29, 2008:	DAC:	Initial scoping of project
June – July, 2008:	EPPC:	Plan component development
	EPPC:	Develop plan outline and create draft of specific plan content
	DAC:	Review and comment on draft Individual/small group assistance to EPPC
August 2008:	DAC:	<u>Meet</u> to evaluate plan progress and content
September 2008:	DAC:	<u>Meet</u> to evaluate plan progress and content Hazard Mitigation and Drought Preparedness
October 2008:	DAC:	<u>Meet</u> to evaluate plan progress and content Develop recommendations for preparedness framework
November 2008:	DAC:	<u>Meet</u> to review plan components Make recommendations/changes for final plan draft Review final DAC recommendations for preparedness framework
December 2008:	DAC:	Approve final plan and recommendations
	EPPC:	Submit plan to LRC and AGNR Subcommittee

